

Amendments to the Claims:

Please cancel claim 12, amend claims 1, 6 and 10, and add new claims 16-21 as shown in the following listing of claims. This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (currently amended) A device comprising:
a mobile embedded device having a cursor manipulator ~~including~~, the cursor manipulator including,
a sensing surface operative to sense contact by the human finger, the contact corresponding to applied pressure,
a pressure sensor array disposed on the sensing surface, wherein a measurement of the plurality of pressure sensors corresponds to an image, and
an image detector, receiving images from the pressure sensor array, generating cursor manipulation corresponding to changes between the images, wherein a sampling resolution of the sensing surface is based on at least one of periodically sampling alternating pixels in ~~[[an]]~~ the pressure sensor array such that sampled pixels are distributed in a periodic pattern throughout the pressure sensor array and monitoring at least one of a plurality of zones in ~~[[an]]~~ the pressure sensor array, wherein the plurality of zones are ~~evenly and unevenly~~ distributed in a non-overlapping pattern throughout the pressure sensor array, and wherein each of the plurality of zones includes multiple pixels of the pressure sensor array, where the plurality of zones populate the array with varying density, the plurality of zones collectively providing navigation data, ~~and wherein the sampling resolution is user-selectable based on a size of a feature of a fingerprint.~~

2. (original) The device, as defined in claim 1, wherein the cursor manipulation corresponds to planar directional movement.

3. (original) The device, as defined in claim 1, wherein the cursor manipulation corresponds to data entry.

1 4. (previously presented) The device, as defined in claim 1, the image
2 detector including:
3 a controller;
4 a multiplex driver, transceiving data to and from the controller;
5 an image array, receiving data from the multiplex driver;
6 sense amplifiers, connected to the image array, transceiving data to and
7 from the controller;
8 a serial port transceiving data with the controller;
9 current read access memory (RAM) connected to the sense amplifiers;
10 reference RAM, connected to the current RAM;
11 a predictor;
12 a cross-correlator receiving and processing data from the current RAM,
13 reference RAM and the predictor; and
14 an interpolator, receiving data from the cross-correlator, transmitting data
15 to the predictor and the controller.

1 5. (original) The device, as defined in claim 1, wherein the mobile embedded
2 device is selected from a group comprising personal data assistants and cellular
3 phones.

1 6. (currently amended) A system for providing cursor manipulation when
2 using a human finger comprising:
3 a sensing surface operative to sense contact by the human finger, the
4 contact corresponding to applied pressure, the sensing surface having a sampling
5 resolution based on at least one of periodically sampling alternating pixels in an
6 array such that sampled pixels are distributed in a periodic pattern throughout the
7 array and monitoring at least one of a plurality of zones in ~~[[an]]~~ the pressure
8 sensor array, wherein the plurality of zones are ~~evenly and unevenly~~ distributed in
9 a non-overlapping pattern throughout the pressure sensor array, and wherein each
10 of the plurality of zones includes multiple pixels of the pressure sensor array,
11 ~~where the plurality of zones populate the array with varying density,~~ the plurality
12 of zones collectively providing navigation data;

13 a pressure sensor array disposed on the sensing surface, wherein a
14 measurement of the plurality of pressure sensors corresponds to an image; and
15 an image detector, receiving images from the pressure sensor array,
16 generating cursor manipulation corresponding to changes between the images.

1 7. (original) The system, as defined in claim 6, wherein the cursor
2 manipulation corresponds to planar directional movement.

1 8. (original) The system, as defined in claim 6, wherein the cursor
2 manipulation corresponds to data input.

1 9. (previously presented) The system, as defined in claim 6, the image
2 detector including:
3 a controller;
4 a multiplex driver, transceiving data to and from the controller;
5 an image array, receiving data from the multiplex driver;
6 sense amplifiers, connected to the image array, transceiving data to and from the
7 controller;
8 a serial port transceiving data with the controller;
9 current read access memory (RAM) connected to the sense amplifiers;
10 reference RAM, connected to the current RAM;
11 a predictor;
12 a cross-correlator receiving data from the current RAM, reference RAM,
13 and the predictor; and
14 an interpolator, receiving data from the cross-correlator, transmitting data
15 to the predictor and the controller.

1 10. (currently amended) A method for finger navigation of a cursor
2 comprising:
3 sampling a portion of an array of pressure sensors to generate a first
4 sample based on at least one of periodically sampling alternating pixels in [[an]]
5 the array such that sampled pixels are distributed in a periodic pattern throughout
6 the array and monitoring at least one of a plurality of zones in [[an]] the array,

7 wherein the plurality of zones are ~~evenly and unevenly~~ distributed in a non-
8 overlapping pattern throughout the array, and wherein each of the plurality of
9 zones includes multiple pixels of the array, where the plurality of zones populate
10 ~~the array with varying density~~, the plurality of zones collectively providing
11 navigation data;
12 re-sampling the portion of the array to generate a second sample; and
13 comparing the first and second samples to determine planar movement of
14 the finger to generate directional input reflected in navigational movement of the
15 cursor.

1 11. (original) A method, as defined in claim 10, wherein the portion is a subset
2 of the array.

1 12. (canceled).

1 13. (original) A method, as defined in claim 11, wherein the subset is a region
2 of pressure sensors.

1 14. (original) A method, as defined in claim 13, wherein the region has an area
2 comparable to a fingerprint.

1 15. (original) A method, as defined in claim 13, wherein the subset further
2 comprises a second region of pressure sensors.

1 16. (new) A device, as defined in claim 1, wherein the sampling resolution of
2 the sensing surface is based on the monitoring the multiple zones of the plurality
3 of zones in the pressure sensor array.

1 17. (new) A device, as defined in claim 1, wherein the sampling resolution of
2 the sensing surface is based on the periodically sampling the alternating pixels in
3 the pressure sensor array such that the sampled pixels are distributed in the
4 periodic pattern throughout the pressure sensor array.

1 18. (new) A system, as defined in claim 6, wherein the sampling resolution is
2 based on the monitoring the multiple zones of the plurality of zones in the
3 pressure sensor array.

1 19. (new) A system, as defined in claim 6, wherein the sampling resolution is
2 based on the periodically sampling the alternating pixels in the pressure sensor
3 array such that the sampled pixels are distributed in the periodic pattern
4 throughout the pressure sensor array.

1 20. (new) A method, as defined in claim 10, wherein the sampling includes
2 sampling the portion of the array of pressure sensors to generate the first sample
3 based on the monitoring the multiple zones of the plurality of zones in the array.

1 21. (new) A method, as defined in claim 10, wherein the sampling includes
2 sampling the portion of the array of pressure sensors to generate the first sample
3 based on the periodically sampling the alternating pixels in the array such that the
4 sampled pixels are distributed in the periodic pattern throughout the array.